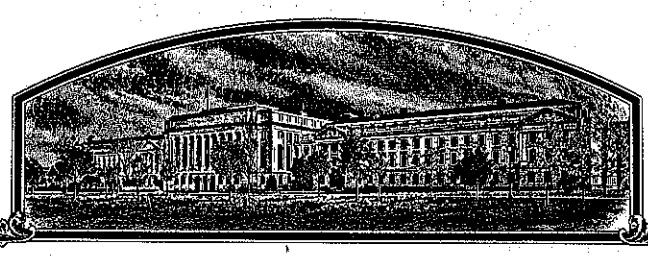

No. 9100032

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Goertzen Seed Research

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF EIGHTEEN YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321

TRITICALE

'Roughrider'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of Washington, D.C. this thirty-first day of October in the year of our Lord one thousand nine hundred and ninety-seven.*

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

PVP 91 00032

FORM APPROVED: OMB 0581-0055, Expires 1/31/91

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) *(as it is to appear on the Certificate)*
~~Kenneth & Betty Goertzen~~ ~~dba~~ GOERTZEN SEED Research

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO.
G7062

3. VARIETY NAME
Roughrider

4. ADDRESS *(street and no. or R.F.D. no., city, state, and ZIP)*
~~Route 2, Box 43~~ 14604 S. Haven Road
Haven, Kansas, 67543

5. PHONE *(Include area code)*

FOR OFFICIAL USE ONLY

PVPO NUMBER
91 00032

FILING
Date: Nov 29, 1990
Time: ☐ A.M. ☐ P.M.

FEES RECEIVED
Filing and Examination Fee: $ 2150.00
Date: Nov 29, 1990
Certificate Fee: $ 300.00
Date: Sept. 29, 1997

6. GENUS AND SPECIES NAME
Triticale

7. FAMILY NAME *(Botanical)*
Gramineae

8. CROP KIND NAME *(Common Name)*
Triticale

9. DATE OF DETERMINATION
1989

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION *(Corporation, partnership, association, etc.)*
~~family business~~ Corporation

11. IF INCORPORATED, GIVE STATE OF INCORPORATION
Delaware

12. DATE OF INCORPORATION
10-2-91

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS

~~Kenneth L. Goertzen~~ Goertzen Seed Research ~~Route 2, Box 43~~ ~~Stadium Dr~~
Dr. Sid Perry ~~AAA~~ 20 Dec 1996 Haven, Kansas 67543 14604 S. Haven Rd.
paletters ~~AAA~~ 20 Dec 1996 paletters

PHONE *(Include area code)*:

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED *(Follow INSTRUCTIONS on reverse)*

- a. ☒ Exhibit A, Origin and Breeding History of the Variety.
- b. ☒ Exhibit B, Novelty Statement.
- c. ☒ Exhibit C, Objective Description of Variety.
- d. ☒ Exhibit D, Additional Description of Variety.
- e. ☒ Exhibit E, Statement of the Basis of Applicant's Ownership.
- f. ☒ Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office 11/26/1990
- g. ☒ Filing and Examination Fee ($2,150) made payable to "Treasurer of the United States."

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See section 83(a) of the Plant Variety Protection Act.)*
☐ YES *(If "YES," answer items 16 and 17 below)* ☒ NO *(If "NO," skip to item 18 below)*

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ YES ☐ NO

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?
☐ YES *(If "YES," through* ☐ Plant Variety Protection Act ☐ Patent Act. Give date: _____ .)
☒ NO

19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?
☐ YES (If "YES," give names of countries and dates)
☒ NO

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in section 41, and is entitled to protection under the provisions of section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT *(Owner(s))*	CAPACITY OR TITLE	DATE
Kenneth L. Goertzen	~~Owner~~ Breeder	11/26/90
SIGNATURE OF APPLICANT *(Owner(s))*	CAPACITY OR TITLE	DATE
Betty L. Goertzen	Breeder	11/26/1990

9100032

14a. Exhibit A Origin & Breeding History of Roughrider

Roughrider was selected from a segregating population obtained from Dr. Vaino Poysa, Crop Science Dept. University of Guelph, Guelph, Ontario, Canada. It was segregating for height, seed plumpness, winter survival, maturity, and susceptibility for rust.

The early winter hardy disease free types with plump seeds were selected. One of the selections is Roughrider. It survived without noticeable damage a 74 degree temperature drop in early February 1989 in Reno County, Kansas. In 1990 it survived with no visible damage 22 degrees below zero temperature with no snow cover.

It is now being increased for market for forage.

Breeders seed will be maintained by Goertzen Seed Research by using roguing and isolation.

Exhibit A addition

Roughrider is a stable and uniform variety coming from a single plant selection that was made in 1986. This selection was bulked in 1987. It has remained stable up to the present (1994).

The variants remain at less than one per 1000 taller plants , one per 1000 shorter plants, and less than 1 per 1000 with red coleoptiles.

When environmental conditions are such that Roughrider grows to 128 cm. there are less than one per 1000 plants approx. 23 cm. taller and less than one per 1000 plants 30 cm. shorter.

Roughrider is used primarily for grazing and forage and is being marketed primarily through Greenbush Seed and Supply at Hutchinson, Kansas. Breeders seed is maintained by Goertzen Seed Research.

9100032

14b. Exhibit B Novelty statement for Roughrider Triticale (G7062)

Trical Jenkins is the most similar variety to Roughrider. They are both winter Triticale with good winter hardiness. They both have prostrate juvenile growth in contrast to upright growth habit. They differ in the following respects. These comparisons were made at Haven, Kansas by observation and measurements with Trical Jenkins and Roughrider grown side by side in 1992.

Roughrider (G7062)	Trical Jenkins
Vigorous growth in fall and spring	Scant growth in fall
Wider leaves in juvenile growth	Narrower leaves in juvenile growth
Leaves of Roughrider on April 4, 1992 were wider and longer (see sheets attached)	Leaves on April 4, 1992 were narrower and shorter
Boot stage - heavy waxy bloom giving more green grey color *	Boot stage - less waxy bloom appearing blue green **
Earlier to head, bloom, and mature Roughrider was headed on May 1, 1992 and in full bloom May 6. (See attached sheets)	Later to head, bloom, and mature Trical Jenkins was still in boot stage May 16. (See attached sheets).
Peduncles moderately hairy	Most peduncles smooth

* RHS 143A ← AAA 19 Aug 1997 per letter → ** RHS 141A

'Roughrider' is taller (see novelty statement based on attached sheets.)

Page: 2 96 RRIDER VS JENKINS HEADING - HAVEN, KS

HEADING_RR	HEADING_JT
138	144
138	145
138	144
137	144

12:33:10 05 August 97 C:\A4\DATA\RRIDERAD.DBF

Anthesis Date
1996 - Haven, KS
9100032

T-Test For Two Paired Samples

	Roughrider	Jenkins
	Sample 1: HEADING_RR	Sample 2: HEADING_JT
Mean	137.75000	144.25000
Maximum	138.00000	145.00000
Minimum	137.00000	144.00000
Range	1.00000	1.00000
Variance	0.25000	0.25000
Std. Dev.	0.50000	0.50000
Std. Error	0.25000	0.25000

Mean difference = -6.5000

Press any key to continue ...

F-Test For Equality of Variances

F-Value	1.0000
Probability	1.0000
Numerator df	3
Denominator df	3

T-Test For Equality of Means

Variance of the difference between means:	0.3333
Standard error of the difference:	0.2887
t:	-22.5167
df:	3.0000
Prob >|t|:	0.0002
95% Lower Confidence interval:	-7.3651
95% Upper Confidence interval:	-5.6349

Press any key to continue ...

 97 RRIDER VS JENKINS HEADING - HAVEN, KS

9100032

RR_AD	JT_AD
142	149
143	150
143	150
142	150

12:29:07 05 August 97 C:\A4\DATA\97RRADHV.DBF

Anthesis Date
1997 Haven, KS
9100032

T-Test For Two Independent Samples

	Roughrider Sample 1: RR_AD	Jenkins Sample 2: JT_AD
Mean	142.50000	149.75000
Maximum	143.00000	150.00000
Minimum	142.00000	149.00000
Range	1.00000	1.00000
Variance	0.33333	0.25000
Std. Dev.	0.57735	0.50000
Std. Error	0.28868	0.25000

Mean difference = -7.2500
Pooled variance = 0.2917

Press any key to continue ...

F-Test For Equality of Variances

F-Value	1.3333
Probability	0.8187
Numerator df	3
Denominator df	3

T-Test For Equality of Means

Statistic	Equal Var.	Unequal Var.
t Value	-18.9850	-18.9850
df	6.0000	5.8800
Prob > |t|	0.0000	0.0000
Standard error of the difference	0.3819	0.3819
95% Lower C.I.	-8.1844	-8.1891
95% Upper C.I.	-6.3156	-6.3109

Press any key to continue ...

Page: 1 97 RRIDER VS JENKINS HEADING - HEREFORD

910032

RR_AD	JT_AD
138	145
139	143
138	144
138	143

12:28:16 05 August 97 C:\A4\DATA\97RRADHF.DBF

Anthesis Date
1997 Hereford, TX
9100032

T-Test For Two Independent Samples

	Sample 1: RR_AD (Roughriders)	Sample 2: JT_AD (Jenkins)
Mean	138.25000	143.75000
Maximum	139.00000	145.00000
Minimum	138.00000	143.00000
Range	1.00000	2.00000
Variance	0.25000	0.91667
Std. Dev.	0.50000	0.95743
Std. Error	0.25000	0.47871

Mean difference = -5.5000
Pooled variance = 0.5833

Press any key to continue ...

F-Test For Equality of Variances

F-Value	3.6667
Probability	0.3142
Numerator df	3
Denominator df	3

T-Test For Equality of Means

Statistic	Equal Var.	Unequal Var.
t Value	-10.1840	-10.1840
df	6.0000	4.5231
Prob > |t|	0.0001	0.0003
Standard error of the difference	0.5401	0.5401
95% Lower C.I.	-6.8215	-6.9335
95% Upper C.I.	-4.1785	-4.0665

Press any key to continue ...

9100032

Page: 1 96 RRIDER VS JENKINS HEIGHT - HAVEN, KS

HEIGHT_RR	HEIGHT_JT
43	49
45	50
45	50
46	51
44	49
46	49
45	51
45	52
44	49
45	48
44	49
44	48
45	52
45	51
45	50
43	49
44	49
42	50
44	48
43	51

12:32:11 05 August 97 C:\A4\DATA\RRIDER.DBF

T-Test For Two Independent Samples

Roughrider Jenkins

Sample 1: HEIGHT_RR Sample 2: HEIGHT_JT

Mean	44.35000	49.75000
Maximum	46.00000	52.00000
Minimum	42.00000	48.00000
Range	4.00000	4.00000
Variance	1.08158	1.56579
Std. Dev.	1.03999	1.25132
Std. Error	0.23255	0.27980

Mean difference = -5.4000
Pooled variance = 1.3237

Press any key to continue ...

F-Test For Equality of Variances

F-Value	1.4477
Probability	0.4274
Numerator df	19
Denominator df	19

T-Test For Equality of Means

Statistic	Equal Var.	Unequal Var.
t Value	-14.8423	-14.8423
df	38.0000	36.7699
Prob > |t|	0.0000	0.0000
Standard error of the difference	0.3638	0.3638
95% Lower C.I.	-6.1365	-6.1373
95% Upper C.I.	-4.6635	-4.6627

Press any key to continue ...

Height
1998 - Haven, KS

 97 RRIDER VS JENKINS HEIGHT - HAVEN, KS 9100032

RR_HT	JT_HT
45	51
46	50
46	50
45	52
45	51
46	52
46	52
46	51
45	52
45	52
46	51
47	51
46	50
45	51
46	51
46	52
45	50
45	51
44	51
45	50

12:27:17 05 August 97 C:\A4\DATA\97RRHTHV.DBF

Height
1997 Haven, KS
9100032

T-Test For Two Independent Samples

	Roughrider Sample 1: RR_HT	Jenkins Sample 2: JT_HT
Mean	45.50000	51.05000
Maximum	47.00000	52.00000
Minimum	44.00000	50.00000
Range	3.00000	2.00000
Variance	0.47368	0.57632
Std. Dev.	0.68825	0.75915
Std. Error	0.15390	0.16975

Mean difference = -5.5500
Pooled variance = 0.5250

Press any key to continue ...

F-Test For Equality of Variances

F-Value	1.2167
Probability	0.6734
Numerator df	19
Denominator df	19

T-Test For Equality of Means

Statistic	Equal Var.	Unequal Var.
t Value	-24.2222	-24.2222
df	38.0000	37.6404
Prob > |t|	0.0000	0.0000
Standard error of the difference	0.2291	0.2291
95% Lower C.I.	-6.0138	-6.0140
95% Upper C.I.	-5.0862	-5.0860

Press any key to continue ...

9100032

Page: 1 97 RRIDER VS JENKINS HEIGHT - HEREFORD

RR_HT	JT_HT
42	47
41	47
42	48
41	46
41	47
42	46
43	47
42	46
43	47
43	47
41	46
42	45
43	44
43	46
42	46
42	45
41	45
41	46
42	47
41	45

12:25:08 05 August 97 C:\A4\DATA\97RRHTHF.DBF

Height
1997 Hereford, TX
9100032

T-Test For Two Independent Samples

	Roughriders Sample 1: RR_HT	Jenkins Sample 2: JT_HT
Mean	41.90000	46.15000
Maximum	43.00000	48.00000
Minimum	41.00000	44.00000
Range	2.00000	4.00000
Variance	0.62105	0.97632
Std. Dev.	0.78807	0.98809
Std. Error	0.17622	0.22094

Mean difference = -4.2500
Pooled variance = 0.7987

Press any key to continue ...

F-Test For Equality of Variances

F-Value	1.5720
Probability	0.3326
Numerator df	19
Denominator df	19

T-Test For Equality of Means

Statistic	Equal Var.	Unequal Var.
t Value	-15.0384	-15.0384
df	38.0000	36.2090
Prob > |t|	0.0000	0.0000
Standard error of the difference	0.2826	0.2826
95% Lower C.I.	-4.8221	-4.8230
95% Upper C.I.	-3.6779	-3.6770

Press any key to continue ...

FORM APPROVED: OMB NO. 40-R3712

FORM GR-470-33 (8/75)

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
~~GRAIN DIVISION~~
HYATTSVILLE, MARYLAND 20782

EXHIBIT C (Triticale)

OBJECTIVE DESCRIPTION OF VARIETY
TRITICALE

NAME OF APPLICANT(S)	VARIETY NAME OR TEMPORARY DESIGNATION
GOERTZEN SEED RESEARCH	Roughrider
ADDRESS (*Street and No., or F.F.D. No., City, State, and ZIP Code*) Route 2, Box 43 Haven, Kansas, 67543	FOR OFFICIAL USE ONLY PVPO NUMBER 9100032

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less.

1. GROWTH HABIT:

[3] 1 = SPRING 2 = INTERMEDIATE 3 = WINTER

[1] Juvenile Plant Growth: 1 = PROSTRATE 2 = SEMIPROSTRATE 3 = ERECT

[1] Photoperiod: 1 = INSENSITIVE 2 = SENSITIVE

2. PLOIDY:

[1] 1 = HEXAPLOID 2 = OCTOPLOID 3 = OTHER (Specify)_____

[4][2] 2n CHROMOSOME NUMBER

3. MATURITY (50% Flowering):

[4] 1 = VERY EARLY 2 = EARLY 3 = MIDSEASON 4 = LATE 5 = VERY LATE

[ ][0] DAYS EARLIER THAN . . . . . [2]
[ ][0] DAYS LATER THAN . . . . . [2]
1 = CARMACK 2 = ROSNER 3 = PATHFINDER 4 = 6TA 204 5 = ARMADILLA

4. HEIGHT:

[1][1][4] CM. HIGH [4] 1 = DWARF 2 = SEMIDWARF 3 = SHORT 4 = MIDTALL 5 = TALL

[ ][0] CM. SHORTER THAN . . . . . [2]
[ ][0] CM. TALLER THAN . . . . . [2]
1 = CARMACK 2 = ROSNER 3 = PATHFINDER 4 = 6TA 204 5 = ARAMADILLA

5. PLANT COLOR AT BOOT STAGE:

[3] 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

6. STEM:

[1] Anthocyanin: 1 = ABSENT 2 = PRESENT

[4] Neck Hairiness: 1 = NONE 2 = SLIGHT 3 = MODERATE 4 = HEAVY

[1] Shape Of Neck: 1 = STRAIGHT 2 = WAVY 3 = OTHER (Specify)_____

7. LEAVES:

[2] Flag Leaf: 1 = NOT TWISTED 2 = TWISTED [3][2] CM. LEAF LENGTH: 1st Leaf Below Flag Leaf

[2] Waxy Bloom On Leaf At Boot: 1 = ABSENT 2 = PRESENT [0][9] MM. LEAF WIDTH: 1st Leaf Below Flag Leaf

[2] Leaf Carriage: 1 = UPRIGHT 2 = RECURVED 3 = DROOPING [1] Auricle Color: 1 = COLORLESS OR WHITE 2 = PURPLE 3 = OTHER (Specify)_____

FORM GR-470-33 (Page 2) (Reverse) 9100032

8. HEAD:

[2] Density: 1 = LAX 2 = MIDDENSE 3 = DENSE

[5] Shape: 1 = FUSIFORM 2 = OBLONG 3 = CLAVATE 4 = ELLIPTICAL 5 = OTHER (Specify) tapering to fusiform BAA 8 Apr 1995 per 2nd exh. C

[4] Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETTED 3 = AWNLETTED 4 = AWNED

[3] Awn Color: 1 = WHITE 2 = YELLOW 3 = TAN 4 = BROWN 5 = BLACK

[1][0] CM. HEAD LENGTH [1][0] MM. HEAD WIDTH

9. GLUMES AT MATURITY:

[2] Pubescence: 1 = GLABROUS 2 = SLIGHTLY PUBESCENT 3 = PUBESCENT

[2] Color: 1 = WHITE 2 = YELLOW 3 = TAN 4 = BROWN 5 = BLACK

[3] Length: 1 = SHORT 2 = MIDLONG 3 = LONG [3] Width: 1 = NARROW 2 = MIDWIDE 3 = WIDE

[1] Shoulder: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED 4 = SQUARE 5 = ELEVATED 6 = APICULATE [3] Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

10. COLEOPTILE COLOR:

[1] 1 = WHITE 2 = GREEN 3 = PURPLE

11. SEED:

[1] Shape: 1 = OVATE (elongated) 2 = OVAL 3 = ELLIPTICAL

[2] Smoothness: 1 = SMOOTH 2 = SLIGHTLY WRINKLED 3 = WRINKLED

[1] Brush Area: 1 = SMALL 2 = MIDSIZE 3 = LARGE

[1] Brush Length: 1 = SHORT 2 = MIDLONG 3 = LONG

[5] Phenol Reaction: 1 = IVORY 2 = FAWN 3 = LIGHT BROWN 4 = BROWN 5 = BROWN BLACK

[2] Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = BLACK 6 = OTHER (Specify)_____

[4][0] GMS. PER 1,000 SEED

12. DISEASE (0 = Not Tested, 1 = Susceptible, 2 = Resistant, 3 = Tolerant):

[0] STEM RUST (Races)_____ [0] LEAF RUST (Races)_____

[0] STRIPE RUST (Race)_____ [0] ERGOT

[0] POWDERY MILDEW_____ [0] BACTERIAL STRIPE

[0] SEPTORIA [0] YELLOW DWARF

[0] OTHER (Specify)_____ [ ] OTHER (Specify)_____

13. INSECT (0 = Not Tested, 1 = Susceptible, 2 = Resistant, 3 = Tolerant):

[0] GREENBUG

[0] CEREAL LEAF BEETLE

[0] OTHER (Specify)_____

HESSIAN FLY RACE:

[0] GP [0] A [0] B [0] C

[0] D [0] E [0] F [0] G

9100032

14. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	VARIETY
PLANT TILLERING	TRICAL Jenkins, both have good tillering
WINTER HARDINESS	TRICAL Jenkins, both have good winterhardiness
AREA OF ADAPTATION	TRICAL Jenkins, both good winter survival in Kansas
SEED SHAPE	Roughrider has an elongated ovate seed, less shriveled than TRICAL Jenkins

REFERENCES:

L. W. Briggle and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, USDA.

W. E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, Contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts.

COMMENTS:

TRICAL ® Jenkins is a winter triticale used primarily for forage. It is tall, late maturing, and has good winterhardiness. Juvenile growth of TRICAL ® Jenkins is prostrate. Plant tillering is high. At booting, leaves are blue-green, recurved, not twisted, with a waxy bloom.

TRICAL ® Jenkins has some plants with straight stem necks, while others have necks with a slight wave. Spikes are fusiform and oblong in shape, slightly curved in attitude, narrow, and mid-long without a waxy bloom. Awns are mid-long and white. Glumes are off-yellow and glabrous. Approximately 95% of the plants have no pubescence on the stem, while the remainder have slight neck pubescence, averaging 1cm. in length from the base of the spike.

Three other variants can be seen under some conditions, each occurring in less than 0.1% of the plants. These three variants are taller plants, plants with brown glumes, and sterile aneuploids.

A PVP certificate has been issued for TRICAL ® Jenkins. Breeder seed of TRICAL ® Jenkins will be maintained by pure line seed increases. Certified classes shall be Foundation, Registered and Certified. Certified acreage is not to be reported by AOSCA.

14d. Exhibit D. Additional description of Roughrider

Roughrider is a mid tall bearded winter hardy Triticale with good tillering. It makes very good fall growth making it good for pasture. It has rapid stand establishment.

The head is mid dense and fusiform to tapering with a moderately hairy neck. The shape of the neck is straight to very slightly curved. The seed is fairly smooth and the shape of the seed is elongated ovate. The brush area is small and short. The phenol reaction of the seed is brown black.

14e. Exhibit E Statement of the Basis of Ownership of Roughrider.

Wheat breeders, Kenneth & Betty Goertzen, selected a wide range of single plant selections from a segregating population. A reselection, G7062, was made in 1986. This selection appeared uniform and was bulked in 1987. Purity was maintained during increase and testing by roguing and isolation. Breeders seed continues to be maintained by Goertzen Seed Research.

Since PVP application was made it has been marketed by Goertzen Seed Research through Greenbush Seed and Supply at Hutchinson, Kansas. The variety continues to be owned by Goertzen Seed Research .